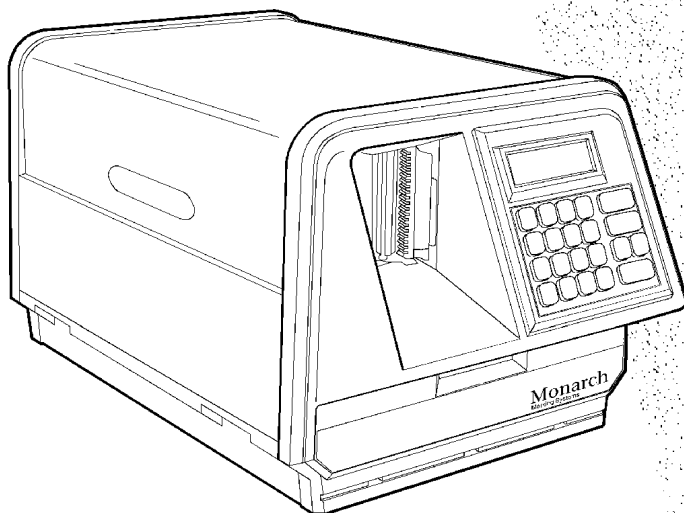


Operator's Handbook

Monarch®
9403™ Printer



Monarch®
PAXAR

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WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CANADIAN D.O.C. WARNING

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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Monarch Marking Systems, Inc.

P.O. Box 608

Dayton, Ohio 45401

DECLARATION OF CONFORMITY

according to ISO/IEC Guide 22 and EN 45014

Manufacture's Name : Monarch Marking Systems, Inc.

Manufacture's Address : 170 Monarch Lane, at I75 and SR725
Miamisburg, Ohio 45342
U.S.A.

Declares that the product :

Product Name : Table Top Thermal Printer

Model Number : M9403

Conforms to the following Product Specifications :

Safety : EN60950:92 AM1 / AM2 / AM3

EMC : C.I.S.P.R. 22, EN 55022 Class B / 1985
FCC Part 15, Subpart B, Class A and Class B

EMI : EN 50082-1 Generic Immunity Standard / Jan. 1992
IEC 801-2 ESD 6KV Contact, 8KV Air Discharge
IEC 801-3 Radiated Electromagnetic, 3V/m
IEC 801-4 Electrical Fast Transient / Burst
EN 60555-2, EN 60555-3 Line Harmonics

Ergonomics : NA

Supplementary Information :

Miamisburg, Ohio
Location

February 28, 1997
Date

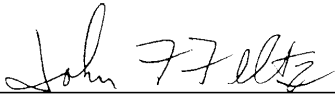

Signature

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GETTING STARTED

1

The Monarch® 9403™ printer prints text, graphics, and bar codes on thermal transfer (ribbon) or thermal direct supplies. The 9403 printer prints labels continuously (in one strip).

This chapter includes information about

- ◆ unpacking the printer.
- ◆ connecting the power cable.
- ◆ connecting the communications cable.
- ◆ using the printer's control panel.

Standard Features

The following features are standard on the 9403 printer:

- ◆ 203 dots per inch (DPI) printhead
- ◆ 2-inch by 6-inch print image
- ◆ 21-key keypad
- ◆ 2 inches per second maximum print speed
- ◆ baud rate up to 19200
- ◆ formats, graphics, and check digits saved in Flash memory when printer is turned off (version 2.0 or greater)

Audience

The Operator's Handbook is for the person who prints and applies labels.

Ordering Programmer's Manuals

The Packet Reference Manual, which describes how to create format and batch packets for printing labels, how to configure the printer online, how to diagnose printer error messages, and how to perform other advanced techniques can be downloaded from our Web site. You can print this manual or order a hard-copy version (part number **TC9800PM**).

About Monarch® Quick-set Utilities

The Monarch® quick-set utilities are available on our Web site and are free to download. This group of development utilities help you configure the printer and design formats. The Label Designer utility allows you to design fixed or variable field formats. However, you cannot enter variable field data using quick-set. Call Technical Support for information about complete software packages.

Unpacking the Printer

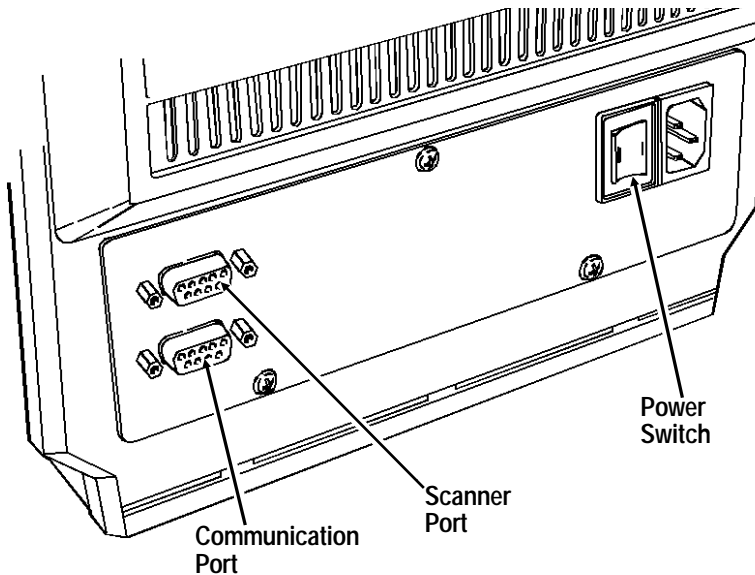
After you unpack the printer, you should have a 9403 printer and a power cord. Keep the box and packaging material in case the printer ever needs repair.

Connecting the Power Cable

To connect the power cable:

CAUTION

The power switch must be off while you connect any cables to the printer.



The scanner port is not active.

1. Plug the power cable into the socket. Plug the other end of the cable into a grounded electrical outlet.
2. Turn on the printer. Press (I) to turn on and (O) to turn off the printer.

Establishing Communications

Before the printer can accept print jobs from the host, you must

- ◆ connect the communication cable to the printer and to the host.
- ◆ set the communication values on the printer to match those at the host.

Connecting the Communication Cable

Make sure the printer is off before connecting
the cable to the communication port.

Serial Communication
9 to 25 pin cable (#110451)
9 to 9 pin cable (#112073)

Connect the communication cable into the bottom port on the printer and the appropriate port of the host.

Default Serial Port Communication Values

If you are communicating with the host through the serial port, make sure the printer's communication values match those at the host. The factory default values are:

- ◆ Baud 9600
- ◆ Word Length 8 bit
- ◆ Stop Bits 1 stop bit
- ◆ Parity none
- ◆ Flow Control DTR

To change the printer's communication values, see Chapter 5, "Communication Values," or your System Administrator.

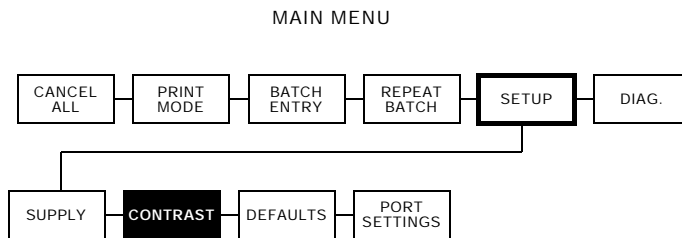
About This Manual

This manual explains how to

- ◆ load supplies and ribbons.
- ◆ set up and begin using the printer.
- ◆ select menu options.
- ◆ enter data.
- ◆ print supplies online or offline.
- ◆ perform general maintenance procedures.

Menu Charts

Each chapter of this manual has one or more charts showing the printer's menu structure. For example:

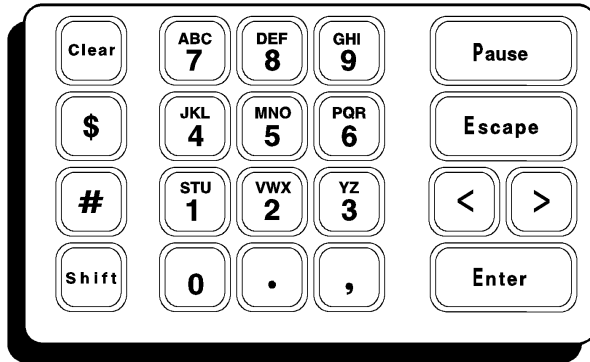


- ◆ Normal border boxes show the menu options.
- ◆ Heavy border boxes show the selections to get to the functions.
- ◆ Black background boxes show the functions.

The black boxes show where you are; the bordered boxes show how you got there.

Using the Keypad

You can control printer operation and enter data offline using the keypad.



The printer has 21 keys allowing offline data entry. This keypad includes 7 function keys, 10 numeric keys, and 4 symbol keys.

Control Keys

Pause




Interrupts printing.


Enters an international character for printing when you enter **Pause** plus a three-digit code. See Appendix B for more information.

Escape

Returns the display to the next higher menu, when you press **Escape** once.

In data entry, press **Shift**, then press **Escape** to return to the Main Menu.

-  Displays the next menu item.
-  Displays the previous menu item.
-  Selects the displayed menu item.

Use the alphanumeric keys to enter batch data. To switch between characters and numbers, press .

Startup

When you turn the printer on, the printer displays a copyright message. You will see other messages as the printer loads formats.

The next message depends on how your printer is set up.

- ◆ If your printer is set for online power-up mode, you will see:

PRINT MODE Ready

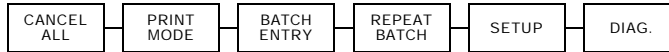
- ◆ If your printer is set for offline power-up mode, you will see:

←	MAIN MENU Print Mode	→
---	-------------------------	---

Selecting a Function

The Main Menu has several functions (operating modes). These functions are shown in the chart below.

MAIN MENU



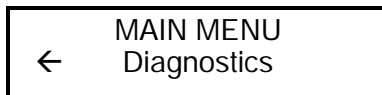
If the printer displays **PRINT MODE Ready** when you turn it on, press **Escape** to display the Main Menu.

To display menu options, press the arrow keys.

- ◆ When the screen displays a right arrow, press **>** to display more options.



- ◆ When the screen displays a left arrow, press **<** to display more options.



- ◆ When the screen displays a left and a right arrow, press either **<** or **>** to display more options.



- ◆ When you see the menu option you want, press **Enter** to select it.

Exiting an Option

To exit an option, press **Escape** once. You will exit to the next higher menu.

When you press **Escape**, you lose any entries you have made since the last time you pressed **Enter**.

Setting Up the Printer

Before you use the 9403 printer, you will need to set up your printer correctly. You may need to also refer to the Packet Reference Manual.

To set up your printer:

1. Load your supply. See Chapter 3, "Loading Supplies."
2. Load your ribbon, if needed. See Chapter 2, "Loading a Ribbon."
3. Set the supply type. See Chapter 4, "Setting Supply Options."
4. Set the printer port options to match your computer's online communication values. See Chapter 5, "Communication Values."
5. Set the defaults. See Chapter 7, "Setting Defaults."
6. Download a format. See Chapter 8, "Printing" or refer to the Packet Reference Manual.
7. Check the print quality of the bar code with a verifier or scanner.

8. If you do not have a verifier or scanner, check the bar code visually. A bar code that is **in spec** will have complete bars and clear spaces. Small alphanumeric characters will look complete. A bar code that is **in spec** may not look as good as one that is too dark, but it will have the highest scan rate.

MONARCH MARKING



1 23456 78901

DAYTON, OHIO

Dark

MONARCH MARKING



1 23456 78901

DAYTON, OHIO

IN SPEC

MONARCH MARKING



1 23456 78901

DAYTON, OHIO

Light

9. If your print quality is not satisfactory, adjust your print contrast. See Chapter 6, "Setting the Contrast."
10. Download another label. If the print contrast is still not satisfactory, call Technical Support.

LOADING SUPPLIES

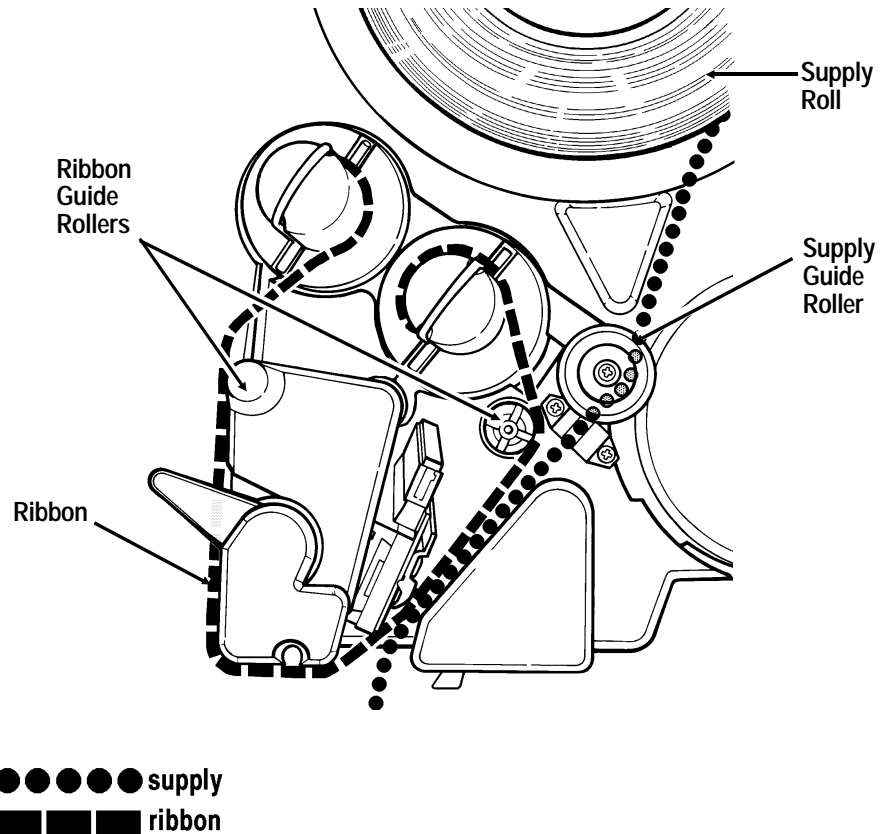
2

This chapter explains how to load supplies for continuous printing. The 9403 printer prints tags or labels in one strip.

The 9403 printer uses a standard 3-inch (76.2mm) core supply.

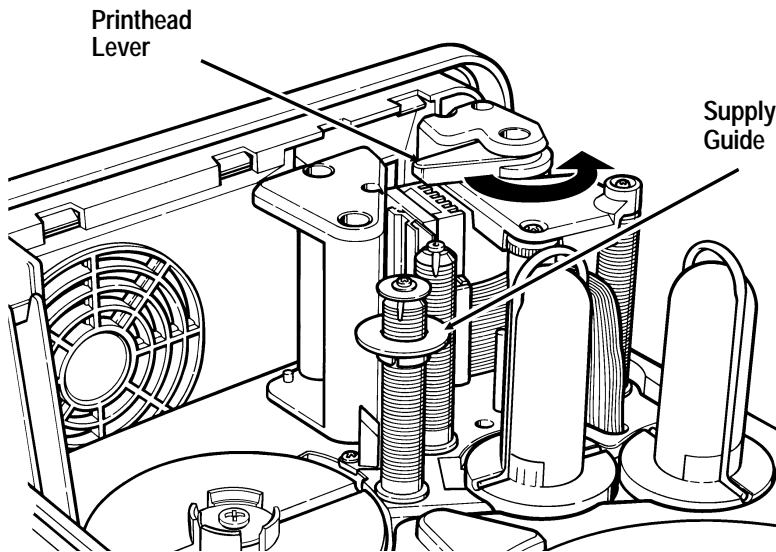
Supply Loading Diagram

The illustration below shows the correct routing for supplies and ribbon.



Loading Supply

1. Remove the cover.
2. Turn the printhead lever counterclockwise to open the printhead.

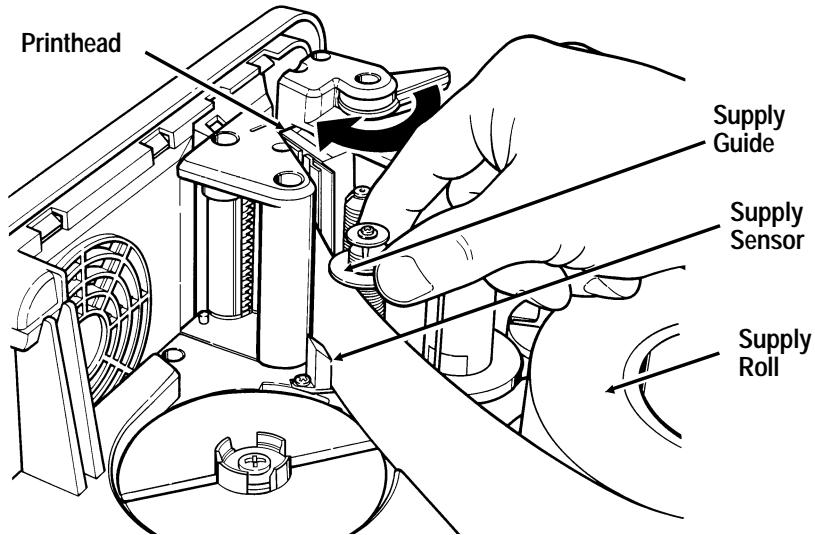


3. Remove the old supply roll.

Change the ribbon when loading new supplies, if necessary (see Chapter 3, "Loading Ribbon").

4. Slide the supply guide to the top of the supply guide roller.
5. Remove the seal from the new roll of supplies.
6. Remove the first label from the backing paper.

7. Place the roll of supplies on the supply platter so the black marks pass the sensor.
8. Feed the supply through the supply sensor and slightly past the printhead.



9. Slide the supply guide down the supply guide roller until it just touches the edge of the supply strip.
10. Turn the printhead lever clockwise to close the printhead.

Printing a Test Label

Print a test label to see if your supply is loaded properly.

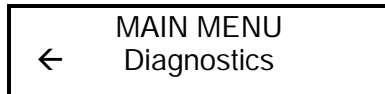
1. Turn the printer on. You will see

PRINT MODE
Ready

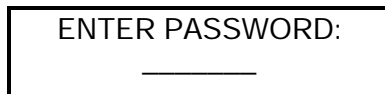
2. Press **Escape**. You will see



3. Press **>** until you see



4. Press **Enter**. You will see



The printer has a password of **Pause**, **Pause**, **Pause**, **Enter**.

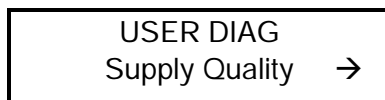
5. Press **Pause** three times.

6. Press **Enter**.

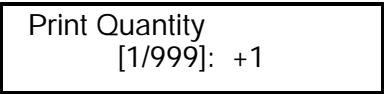
- ◆ If you enter the password incorrectly, the printer returns to the Main Menu.
- ◆ If you enter the password correctly, you will see



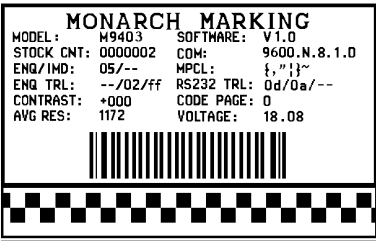
7. Press **>** once. Then, press **Enter**. You will see



8. Press **>** twice. Then press **Enter**. You will see



9. Press **Enter**, and a test label prints.



If the printer is not printing correctly, contact Technical Support.

LOADING RIBBON

3

This chapter explains how to load a ribbon roll.

There are two types of supplies:

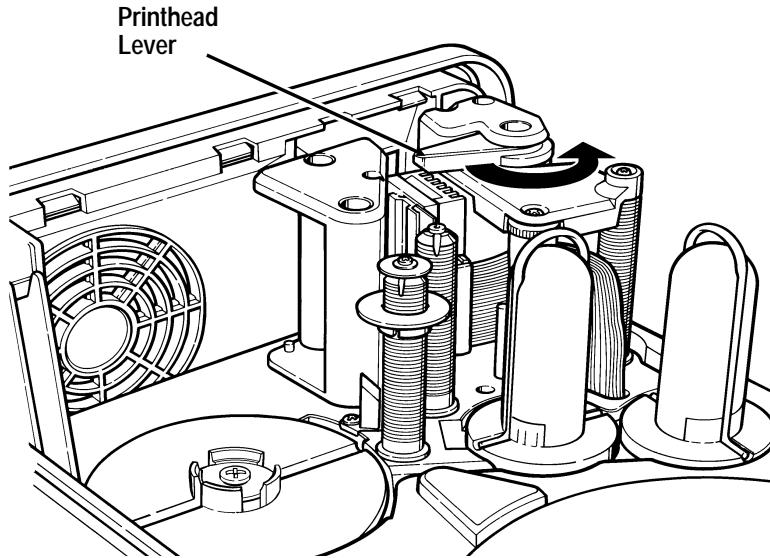
Thermal Direct specially treated thermal supplies that do not use a ribbon for printing.

Thermal Transfer standard supplies that require a ribbon for printing.

If you are using thermal direct supplies, do not load a ribbon.

Loading a Ribbon Roll

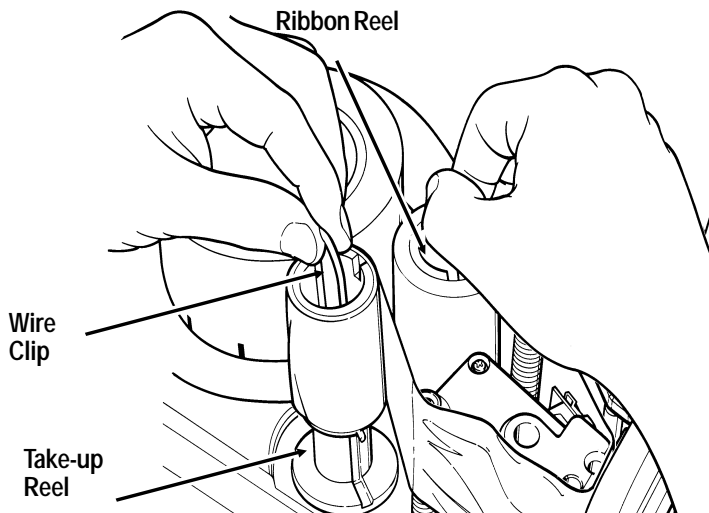
1. Remove the cover.
2. Turn the printhead lever counterclockwise to open the printhead.



3. Rewind the supplies back onto the roll.

—————
If the printer has a used ribbon, follow steps
4-6. If there is no ribbon, skip to step 7.
—————

4. Remove the old ribbon by pulling the wire clips as shown.

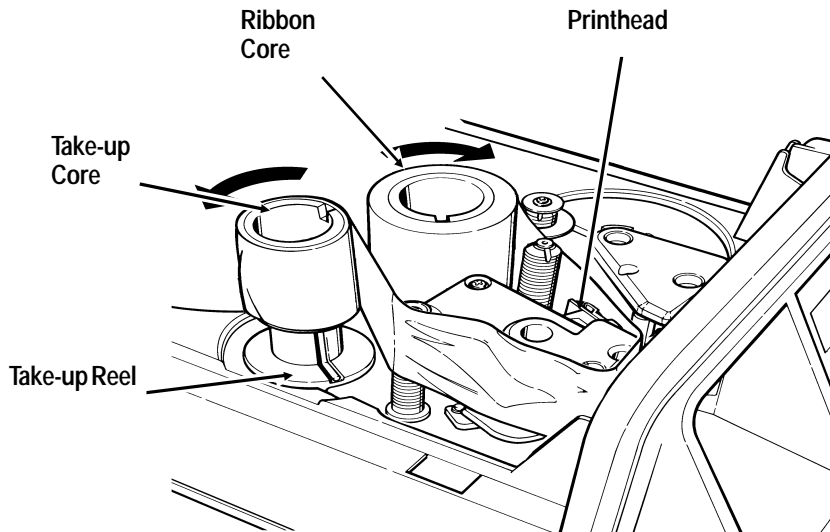


5. Remove the ribbon cores from the wire clips and discard the old cores.
6. Place the wire clips back on the take-up reel and ribbon reel.
7. Remove the new ribbon from the package.

8. Place the full ribbon core on the ribbon reel as shown.

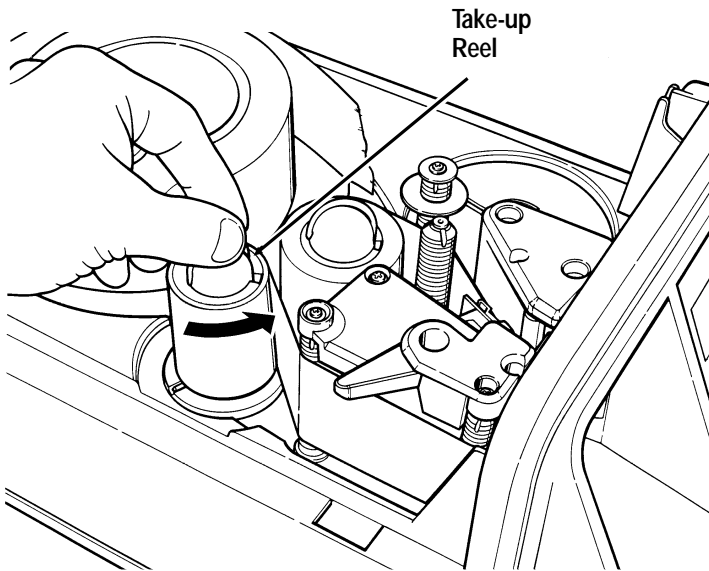
The ribbon reel feeds the ribbon in a **clockwise** direction. The take-up reel winds the ribbon in a **counterclockwise** direction.

9. Guide the ribbon down between the printhead and the front of the printer and around the rollers as shown.



10. Place the empty take-up core on the take-up reel.
11. Press down firmly on the cores to ensure they are seated on the bases.

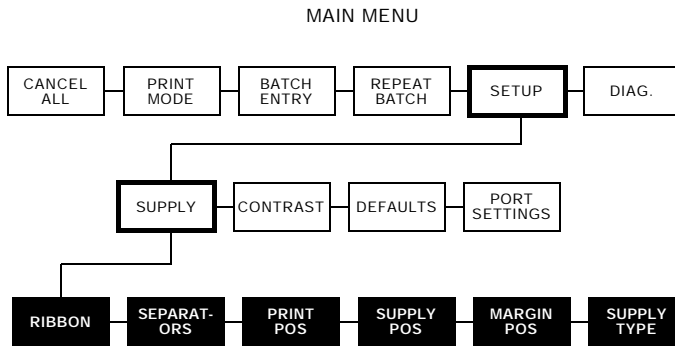
- 12.** Manually turn the take-up reel as shown until the ribbon is tight. **Make sure the ribbon is not wrinkled or bunched.**



- 13.** Slide the supply through the printhead and slightly past the printhead, as described in Chapter 2, "Loading Supplies."
- 14.** Turn the printhead lever clockwise to close the printhead.

SETTING SUPPLY OPTIONS

This chapter explains how to set the ribbon, separators, print position, supply position, margin position, and supply type.



You may need to set supply options when you change supplies. The options are listed in the table below:

Option	Choices	Default
Ribbon	No/Yes	No
Separators	Off/On	Off
Print Position	-99 to +99	0
Supply Position	-99 to +99	0
Margin Position	-99 to +99	0
Supply Type	Black Mark/Die Cut	Black Mark

To exit an option without changing the setting, press **Escape**.

Ribbon

You have to tell the printer if your supplies require a ribbon. To change the setting, from the Main Menu select Setup, then Supply. Then, follow these steps:

1. Press or until you see

SUPPLY Ribbon →

2. Press to set the ribbon option. You will see the current setting, for example:

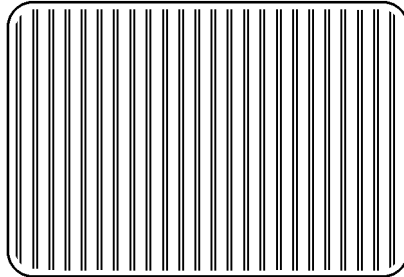
RIBBON No →

3. Press or to see the other options. After you display the option you want, press . Press twice to exit to the Main Menu.

—————
If you set the Ribbon option to **Yes**, install a
ribbon before printing.
—————

Batch Separators

A batch separator is an extra tag printed between batches that has a pinstripe pattern to make it easy to find.

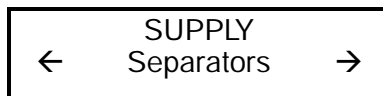


Batch Separator

To change the setting, from the Main Menu select Setup, then Supply. Then, follow these steps:

—————
Changing this setting only affects new
formats sent to the printer.
—————

1. Press **<** or **>** until you see



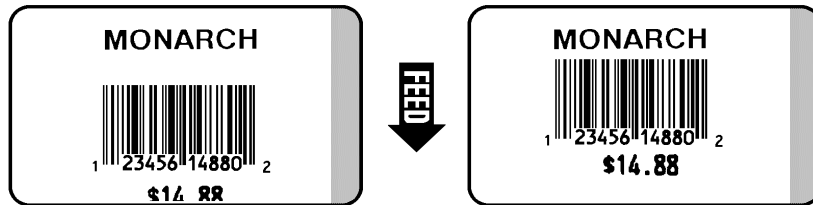
2. Press **Enter** to set the batch separators option. You will see the current setting, for example:



3. Press **<** or **>** to see the other option. After you display the option you want, press **Enter**. Press **Escape** twice to exit to the Main Menu.

Print Position

This function adjusts where data prints vertically on the supply. Adjust the print if it is too close to the top or bottom of the supply, or overtypes the pre-printed area (see the "MONARCH" sample). One dot is 0.0049 inch.



- ◆ If the data is too close to the bottom, increase the number.
- ◆ If the data is too close to the top of the supply, decrease the number.

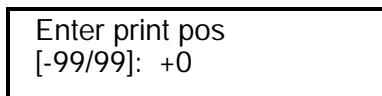
Changing this setting only affects new
formats sent to the printer.

To change the setting, from the Main Menu select Setup, then Supply. Then, follow these steps:

1. Press or until you see



2. Press . You will see the current setting, for example:



3. Use the arrow keys to change the print position. Pressing **>** increases the value (moves the image up); **<** decreases it (moves the image down).
Press the arrow key once to change one number at a time.
4. Press **Enter** when the number you need appears. Press **Escape** twice to exit to the Main Menu.

Supply Position

This function adjusts how much supply feeds out of the exit chute. You may need to adjust the supply in or out to allow

- ◆ tags and labels to be removed.
- ◆ die cut labels to be removed easily.

The adjustments are in dots (0.0049 inch).

- ◆ Increase the number to feed more supply out of the chute.
- ◆ Decrease the number to feed less supply out of the chute.

This option takes effect on the next label or tag printed. Changing supply position may also affect print position.

To change the setting, from the Main Menu select Setup, then Supply. Then, follow these steps:

1. Press **<** or **>** until you see

SUPPLY
← Supply Pos →

2. Press **Enter**. You will see the current setting, for example:

Enter supply pos
[-99/99]: +0

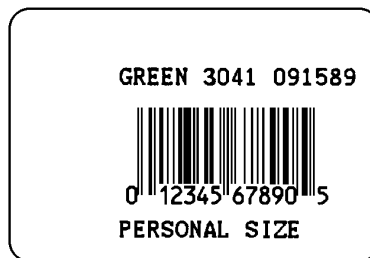
3. Use the arrow keys to change the supply position. Pressing **>** increases the value (feeds more supply); **<** decreases it (feeds less supply).
Press the arrow key once to change one number at a time.
4. Press **Enter** when the number you need appears. Press **Escape** twice to exit to the Main Menu.

Margin Position

This function adjusts where the format prints horizontally on the supply. The adjustments are in dots (0.0049 inch), which is the smallest measurement the printer recognizes.

Print too far to the left.

Print too far to the right.



- ◆ If the data is too close to the left side of the supply, increase the number.
- ◆ If the data is too close to the right side of the supply, decrease the number.


The width of the print area depends on your supply size. Maximum width is two inches. When you move the image to the right or left on the supply, avoid moving the image within one tenth of an inch from either edge, because that is the non-printing zone.

Changing this setting only affects new
formats sent to the printer.





To change the setting, from the Main Menu select Setup, then Supply. Then, follow these steps:

1. Press  or  until you see

 SUPPLY
Margin Pos 

2. Press . You will see the current setting, for example:

Enter margin pos
[-99/99]: +0

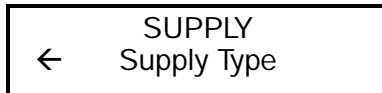
3. Use the arrow keys to change the margin position. Pressing  increases the value (moves the image toward the right side of the supply);  decreases it (moves the image toward the left side of the supply).
- ◆ Press the arrow key once to change one number at a time.
 - ◆ Press and hold the arrow key to change rapidly.
4. Press  when the number you need appears. Press  twice to exit to the Main Menu.

Supply Type

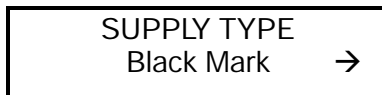
You can print on black mark or die cut supplies, but you have to tell the printer which supplies you are using.

To change the setting, from the Main Menu select Setup, then Supply. Then, follow these steps:

1. Press **<** or **>** until you see



2. Press **Enter** to set the supply type option. You will see the current setting, for example:

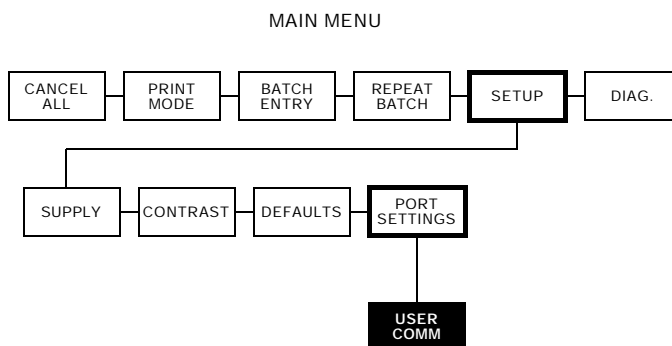


3. Press **>** to see the next option. After you display the option you want, press **Enter**. Press **Escape** twice to exit to the Main Menu.

COMMUNICATION VALUES

5

This chapter tells you how to set the User Communication (User Comm) values. These values provide the link for normal online printing.



You need to set your User Comm values to match your computer's online communications. Before entering the communication values, see your System Administrator.

The communication values are listed in the table below.

Option	Choices	Default
Baud rate	1200/2400/4800/9600/19200	9600
Word length	7/8	8
Stop bits	1/2	1
Parity	None/Odd/Even	None
Flow control	None/Xon/Xoff/DTR/CTS	DTR
Reset	No/Yes	No

Baud Rate

To change the setting, from the Main Menu select Setup, Port Settings, then User Comm. Then, follow these steps:

1. Press **Enter** to set the baud rate. You will see the current setting, for example:

BAUD RATE		
←	2400	→

2. Press **<** or **>** to display the baud rate you need, then press **Enter**. Press **Escape** three times to exit to the Main Menu.

Word Length

To change the setting, from the Main Menu select Setup, Port Settings, then User Comm. Then, follow these steps:

1. Press **<** or **>** until you see

USER COMM		
←	Word Length	→

2. Press **Enter**. You will see the current setting, for example:

WORD LENGTH		
←	8	

3. Press **<** or **>** to display the word length you need, then press **Enter**. Press **Escape** three times to exit to the Main Menu.

Stop Bits

To change the setting, from the Main Menu select Setup, Port Settings, then User Comm. Then, follow these steps:

1. Press **<** or **>** until you see

←	USER COMM Stopbits	→
---	-----------------------	---

2. Press **Enter**. You will see the current setting, for example:

	STOPBITS 1	→
--	---------------	---

3. Press **<** or **>** to display the number of stop bits you need, then press **Enter**. Press **Escape** three times to exit to the Main Menu.

Parity

To change the setting, from the Main Menu select Setup, Port Settings, then User Comm. Then, follow these steps:

1. Press **<** or **>** until you see

←	USER COMM Parity	→
---	---------------------	---

2. Press **Enter**. You will see the current setting, for example:

	PARITY None	→
--	----------------	---

3. Press **<** or **>** to display the parity you need, then press **Enter**. Press **Escape** three times to exit to the Main Menu.

Flow Control

To change the setting, from the Main Menu select Setup, Port Settings, then User Comm. Then, follow these steps:

1. Press or until you see

USER COMM
← Flow Control →

2. Press . You will see the current setting, for example:

FLOW CONTROL
← DTR →

3. Press or to display the flow control you need, then press . Press three times to exit to the Main Menu.

XON is 17; XOFF is 19. Set flow control to DTR for PC computers (unless you have XON/XOFF software).

Reset to Default Values

To change the setting, from the Main Menu select Setup, Port Settings, then User Comm. Then, follow these steps:

1. Press until you see

USER COMM
← Reset

2. Press . You will see

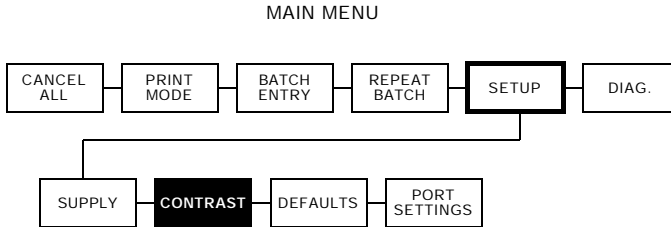
Are you sure?
No →

3. Press or to make your selection, then press . Press three times to exit to the Main Menu.



SETTING CONTRAST

6

This chapter explains how to set the contrast, which controls the darkness of the printing on your supply.






Correct contrast setting is important because it affects how well your bar codes scan and how long your printhead lasts. You can use a verifier to check bar codes for contrast.

1. From the Main Menu, press  or  until you see


MAIN MENU
Setup

← →





2. Press . You will be at the Setup menu. Press  or  until you see

SETUP
Contrast

← →

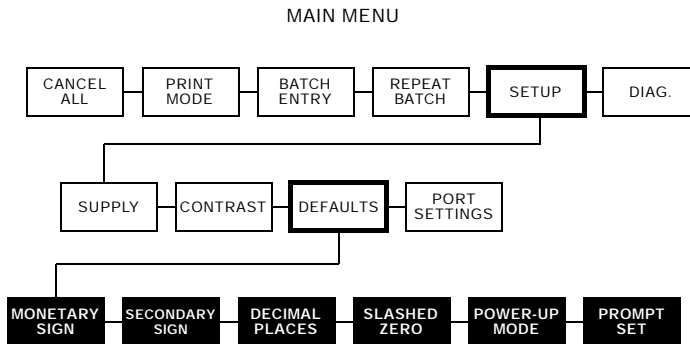
3. Press . You will see the current setting, for example:

Enter contrast
[-390/156]: +0

4. Use the arrow keys to change the contrast. Pressing  darkens the print;  lightens the print.
Press the arrow key once to change one number at a time.
5. Press  to select the displayed value. Press  to exit to the Main Menu.

SETTING DEFAULTS

This chapter explains how to select the monetary sign, secondary sign, decimal places, slashed zero, power-up mode, and prompt set.



You can set your printer configurations to fit your daily operation, using either the offline menus or the online configuration option. To set these options online, refer to the Packet Reference Manual. After an option is selected in the online configuration or offline Setup Menu, the option is saved in memory and saved after power down.

The monetary formatting options are listed in the table below.

Option	Choices	Default
Monetary sign	None/USA/UK/Japan/ Germany/France/Spain/ Italy/Sweden/Finland/ Austria/India/Russia/ Korea/Thailand/China/ Euro-Dollar	USA
Secondary Sign	No/Yes	No
Decimal Places	0/1/2/3	2
Slashed Zero	No/Yes	No
Power-up Mode	Online/Offline	Online
Prompt Set	English/French/German/ Spanish	English

The monetary sign, secondary sign, and decimal places options are used in conjunction with option **42**. Refer to the Packet Reference Manual for more information.

The settings for Monetary Sign, Secondary Sign, Slashed Zero, and Decimal Places are applied when a format is downloaded. Changing the settings does **not** affect batches already in the printer.

Monetary Sign

The monetary signs available for 15 countries are shown in the table below:

You can also select **None** if you do not want a monetary sign to print in price fields.

Country	Currency	Description
USA	\$	dollar
UK	£	pound
Japan	¥	yen
Germany	₤	deutsche mark
France	F	franc
Spain	P	peseta
Italy	L.	lira
Sweden	Kr	krona
Finland	₤	markka
Austria	g	schilling
India	Rs	rupee
Russia	₤	ruble
Korea	₩	won
Thailand	฿	baht
China	¥	yuan
Euro-Dollar	€	Euro-Dollar

To change the setting, from the Main Menu select Setup, then Defaults. Then, follow these steps:

1. Press **Enter**. You will see the current setting, for example:

MONETARY SIGN		
←	USA	→

2. Press **<** or **>** until you see the country's monetary sign you want.
3. Press **Enter**. Press **Escape** twice to exit to the Main Menu.

Secondary Sign

If you select USA as the monetary sign, you can print amounts less than \$1.00 either by using a dollar sign and decimal (\$.30) or by using a cent sign (30¢).

- ◆ If you set the secondary sign option to **No**, prices under \$1.00 will print like this: **\$.45**
- ◆ If you set the secondary sign option to **Yes**, prices under \$1.00 will print like this: **45¢**

The same option applies to the appropriate secondary sign for monetary signs other than USA.





To change the setting, from the Main Menu select Setup, then Defaults. Then, follow these steps:

1. Press **<** or **>** until you see

DEFAULTS		
←	Secondary Sign	→

2. Press **Enter**. You will see the current setting, for example:

SECONDARY SIGN		
	No	→



3. Press  or  until you see the option you want. Then press . Press  twice to exit to the Main Menu.

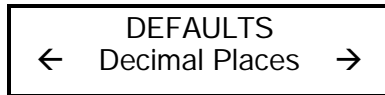
Decimal Places


You can set the printer for 0, 1, 2, or 3 places after the decimal in a price field. In U.S. currency, you might print prices like this:

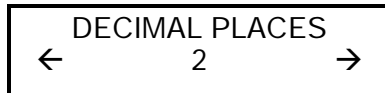
\$24.00 (2 decimal places) or like this: \$24 (0 decimal places).





To change the setting, from the Main Menu select Setup, then Defaults. Then, follow these steps:

1. Press  or  until you see



2. Press . You will see the current setting, for example:



3. Press  or  until you see the option you want. Then press . Press  twice to exit to the Main Menu.

Slashed Zero

The slashed zero feature lets you select how you want the zero character printed: without a slash (0) or with a slash (ø).

Standard or reduced fonts print the slashed zero character (ø). Bold and OCR fonts print the standard zero (0) only. The slashed zero selection will **not** be in effect until the format is sent to the printer again.


If you change the way zero is printed, you must resend your formats.

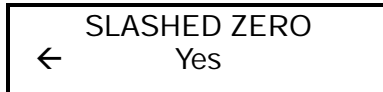
To change the setting, from the Main Menu select Setup, then Defaults. Then, follow these steps:

1. Press  or  until you see



DEFAULTS
← Slashed Zero →

2. Press . You will see the current setting, for example:



← SLASHED ZERO
Yes

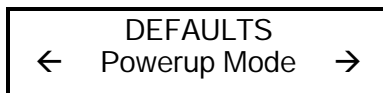
3. Select the option you want. Then press . Press  twice to exit to the Main Menu.

Power-Up Mode


Power-up mode lets you decide how your printer starts each time you turn it on. If you normally want the printer to be ready to start printing when it is turned on, use the Online power-up mode. If you normally want the operator to perform some other task first, use the Offline power-up mode.

To change the setting, from the Main Menu select Setup, then Defaults. Then, follow these steps:

1. Press  or  until you see



DEFAULTS
← Powerup Mode →

2. Press . You will see the current setting, for example:



← POWER UP
Offline

3. Press **<** or **>** until you see the option you want. Then press **Enter**. Press **Escape** twice to exit to the Main Menu.

Prompt Set

Prompt set determines which language displays on the printer's menu. You can select English, French, German, or Spanish.

To change the setting, from the Main Menu select Setup, then Defaults. Then, follow these steps:

1. Press **>** until you see

←	DEFAULTS Prompt Set
---	------------------------

2. Press **Enter**. You will see the current setting, for example:

PROMPT SET English	→
-----------------------	---

3. Press **<** or **>** until you see the option you want. Then press **Enter**. Press **Escape** twice to exit to the Main Menu.

This option only affects the displayed prompts. It will not change what is printed by the printer.

PRINTING

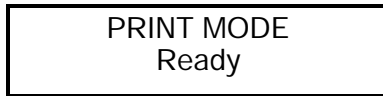
8

This chapter explains how to print, interrupt, restart, cancel, and repeat a batch.

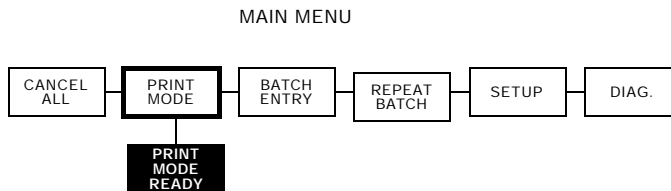
You can send format, batch, and graphic data to the printer from a host. When the printer receives the data, batches begin printing automatically. The Packet Reference Manual tells how to create, store, and download the data necessary to print batches.

Before you print, make sure the printer is connected and ready to receive data.

Your printer is ready to receive and print batches when you see



Printing begins as soon as you download the format and batch data from the host. If there are offline batches in the print queue, the offline batches print after the downloaded batches have printed. If you send formats that require operator data, use Batch Entry Mode to enter the data. See "Entering a Batch" for more information.



Interrupting a Batch

You can interrupt printing by pressing **Escape**. You may want to interrupt a batch to make adjustments for:

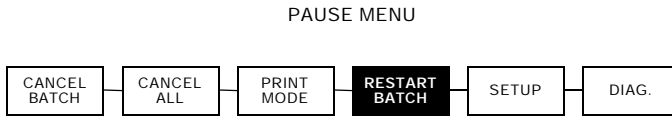
- ◆ Loading a different roll of supply or a ribbon. See Chapter 3, "Loading Supplies."
- ◆ Adjusting the supply position or contrast using the Setup menu. See Chapter 4, "Setting Supply Options," or Chapter 6, "Setting the Contrast."

When you press **Pause** you will see



You can press **Enter** to resume printing or press **<** or **>** to display the Pause Menu options.

The following chart shows the Pause Menu options.



Restarting a Batch

You can reprint a paused batch from the beginning (using the original quantity).

1. When you press **Pause**, you will see



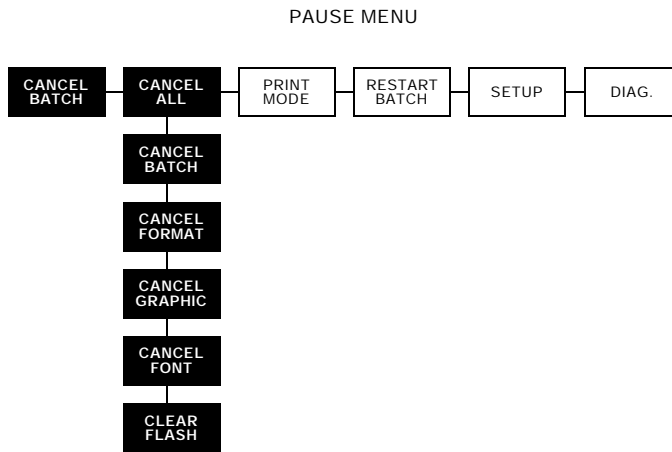
2. Press **>** until you see



3. Press **Enter**. The batch starts printing from the beginning.

Canceling a Paused Batch

You can cancel a paused batch, delete a format, graphic, or font in memory, or all the batches waiting to print. If password protection has been enabled for formats, graphics, fonts, or flash, you must enter a password before they can be deleted. If password protection has not been enabled, you will not be prompted for a password to delete formats, graphics, fonts, or clear flash. See "Using Password Protection" in Chapter 10 for more information.



Before any format, graphic, or font in memory can be deleted, you must cancel all batches.

1. Press **Pause** to interrupt printing. You will see



- ◆ If you want to cancel only the paused batch, skip step 3.
- ◆ If you want to cancel all the batches, skip step 2.

2. To cancel only the paused batch, press or until you see

PAUSE MENU Cancel Batch <input type="button" value="→"/>

Then press . The batch is deleted and the printer prints any remaining batches.

3. To cancel all the batches (including the paused batch), press or until you see

← PAUSE MENU → Cancel All

and press . You will see

Cancel Batches? No <input type="button" value="→"/>
--

4. You can

- ◆ exit without canceling any batches. Press or press to display **No** and then press . The printer returns to the Pause Menu. Press or to select another function from the Pause Menu, or to return to Print Mode and print all the batches.
- ◆ cancel all batches in the print queue including the paused batch. You can still use repeat batch to reprint the last batch. The last batch remains in memory until the next format is sent. Press to display **Yes**, then press . You will see

← Cancel Format? → Yes

Press or then press .

If you select "Yes" and password protection is enabled, you will see:

Enter Password

Press to delete all formats. You will see

Cancel Graphic?
← Yes

Press or then press . If password protection is enabled, you must enter the password () before all graphics are deleted. You will see

Cancel Font?
← Yes

If you select **Yes**, these prompts delete **ALL** formats, graphics, and/or fonts in the printer.

Press or , then press . If password protection is enabled, you must enter the password () before all fonts are deleted. You will see

Clear Flash?
No →

Press to display **Yes** and then press . If password protection is enabled, you must enter the password () before flash is cleared. If you select **Yes**, **ALL** packets (formats, graphics, and/or check digits) stored in flash memory (with "F" selector in the format packet) are deleted.

To reload the three standard formats and/or service-installed formats: turn the printer off, wait five seconds, and then turn on the printer. You will see:

PRINT MODE
Ready

Repeating a Batch

Before you start printing a new batch, you can reprint the last batch. The batch can be the last one you printed completely, or one that you canceled after starting to print.



1. From the Main Menu, press or until you see

MAIN MENU
← Repeat Batch →

2. Press . You will see


Printing
xxxx of xxxx


The number increments until the entire batch has printed. When it is finished, you will see

PRINT MODE
Ready

Offline Printing


This section explains how to prepare your printer for offline printing and enter data. Offline printing means entering batch data from the keypad and printing batches. There are three standard formats included with your printer. See "Using the Standard Formats" for more information.

You can enter numbers, letters, and a variety of symbols (including punctuation and international characters). International characters are available by pressing  and code numbers. See Appendix B for more information.


You can switch between character and numeric mode at any time by pressing the  key.

For offline printing, send the format to the printer first. You can send several offline formats to the printer. If the formats are stored in flash memory, they remain when the printer is turned off. Do not send packets with the same number to flash memory. If two packets with the same number are stored in flash, only the last packet sent is used. Refer to the Packet Reference Manual for more information.


Entering Numbers

You must be in numeric mode to enter numbers. If a caret (^) appears in the upper right corner of the printer display, press  to remove. If no caret appears in the upper right corner, you are ready to enter numbers.



To enter numeric data, press the alphanumeric key that shows the number you want. The screen displays the number, and the cursor moves to the next position in the field. This is also how you enter a period (.), comma (,), dollar sign (\$) or pound sign (#).

You can switch back to character mode at any time by pressing . Each time you press this key, the mode switches from one to the other.


Here is an example of how to enter **\$23.00**.

1. Press the **\$** key. The symbol **\$** appears.
2. Press the **2** key. The number **2** appears.
3. Press the **3** key. The number **3** appears.
4. Press the **.** key (below the **2** key). The symbol **.** appears.
5. Press the **0** key twice. The numbers **00** appear.
6. Press  when you have entered all the data for the field.

Entering Letters

When you use  , a caret symbol (^) appears in the upper right corner of the printer display. This indicates you are in character mode and can enter letters. To enter character data, press  to switch to character mode.

Item: ^







Once character mode is active, press the alphanumeric key that shows the letter you want. The first letter assigned to the key appears in the field. Each time you press the same key, the next letter that is assigned appears. An alphanumeric key may have up to six letters assigned, three in upper-case and three in lower case. When the character you need appears, press  to move to the next position in the field.

Some symbol characters are assigned to the dollar sign (\$) and pound sign (#). They switch between characters each time you press the same key. They are (in the order assigned):

\$	¢
#	? @ & ! _ p \ ^ ~

Here is an example of how to enter the word **Shirt**.

Not all fonts support lower-case letters. See
Appendix B, "Character Sets," for the
character set information.

1. Press  to switch to character mode.
2. Press the **1** key once. The letter **S** appears in upper case.
3. Press  to move the cursor to the next position on the screen.
4. Press the **9** key five times. The letter **h** appears in lower-case.
5. Press  to move the cursor to the next position on the screen.
6. Press the **9** key six times. The letter **i** appears in lower-case.
7. Press  to move the cursor to the next position on the screen.
8. Press the **6** key six times. The letter **r** appears in lower-case.
9. Press  to move the cursor to the next position on the screen.
10. Press the **1** key five times. The letter **t** appears in lower-case.
11. Press  when you have entered all the data for the field.

Entering Symbols

You can use character codes to enter symbols. See Appendix B for a list of symbols and their corresponding character codes.

To enter a character code

1. Press **Pause**.
2. Use the data entry keys to enter the three-digit character code. For example, enter **179** for ¥.
3. Press **Enter**.

Using Bar Code 128

You can enter function codes 1 - 4 for code 128 bar codes. These codes only function as code 128 data. They do not print if you enter them as data anywhere else. See the Code 128 table in Appendix B for the function code you want.

To enter a function code


1. Press **Pause**.
2. Use the data entry keys to enter the function code you want.
3. Press **Enter**.

Entering and Changing Data





When you need to enter data, the screen shows a prompt with an underscore for each character you can enter.

DEPT: JUNIOR _ _ _




For example, this screen shows you can enter up to three characters before pressing **Enter**. If you try to enter more than three characters, the printer does not accept the data. Your entry is not accepted until you press **Enter**.

Some fields specifically require numeric or alphabetic data. If you try to enter numeric data for an alpha field, or alphabetic data for a numeric field, the printer does not accept the data. Enter the correct data and press .

To change data

- ◆ use  to back up, type the new data over the old data and then press , or
- ◆ press  to clear all data, then re-enter the correct data and press .

When you enter data incorrectly, the printer displays a message. Following is a list of conditions that cause an error and how to correct them. Sometimes a data entry problem may be a combination of these conditions.

Problem	Action
The data you entered is not accepted.	Refer to your format definition for acceptable characters for this field. Some fields accept only letters, some accept only numbers. Some accept only specific ranges of letters or numbers.
Your data was not accepted; blanks still showing.	This field requires data for all underscores shown. Enter the correct data and press  .
You entered an incorrect check digit.	The data and check digit must be the correct combination. Enter the correct data and press  .
You tried to skip a required field.	This field requires data before continuing to the next field. Enter data and press  .

Types of Data Entry

Following are samples of the prompts you may see when entering data.

Entering General Data

When you see a prompt similar to the one below, you can enter a character for each blank.

DEPT: DEPT _ _ _ _

Entering a Price

At data entry, the price prompt includes the pricing symbols (unless you select **None** for Monetary Sign). Your price prompt may look like this

PRICE: \$0.00

...or like this

PRICE: 0¢

The difference between these prompts is the symbol used for printing amounts less than \$1.00. You can select the cent sign for printing amounts less than \$1.00 using the Defaults function. The same option is available for other currencies. See Chapter 7, "Setting Defaults."

You can enter and print: cent amounts, dollar and cent amounts, or unit prices. For example: 3¢, 2/59¢, \$.59, 3/\$1.00, or \$15.98.

Entering "2-For" Price Data

You can use any price field in a "2-for" pricing scheme. When entering data for a price field offline (at the printer), use the # key to separate the 2 and the price data in the "2-for" price. For example, to enter the price "Two for \$5.00," enter **2#500**. If you use field option 42 to format the field online as a price field, enter the quantity, a slash, and the price data. For example, to enter the price "Two for \$5.00," enter **2/500**.

Prompts with Fixed Characters

When a field has fixed characters, they appear as part of the data entry prompt. The fixed data stays the same, and prints on every tag that uses the format. Only the data you enter can be changed. In the example below, the first six digits are fixed characters.

UPCA Barcode: 004156 _ _ _ _ _

The printed field contains both the fixed characters and the data you enter.

Entering a Batch

Batch Entry lets you enter the data to print a batch (or batches) of supplies. You can enter up to 3 batches before you print.

1. Press **Escape** until you see the Main Menu.
2. Press **<** or **>** until you see

←	MAIN MENU Batch Entry	→
---	--------------------------	---

3. Press **Enter**.

4. Press or until you see the type of format you want, then press . You will see the last format that was used, for example

Select Format: FMT-1 96 →
--

5. Press or until you see the name of the format you want, then press .
6. If this format has been used since the printer was turned on (and you have not used another format in the meantime), you will see

Clear Fields? No →

- ◆ Press to keep the old data. Each field appears with the previous data. You can press to accept the data, or change it and press .
 - ◆ Press then press to erase the old data. Each field appears with blanks (underscores). You have to enter new data for each field.
7. You will see the first prompt for the format. Enter data and press for each prompt.
8. After you enter data for all the fields, you will see

Quantity:1-9999 _ _ _ _

9. Type the number of tags or labels you want to print in this batch and press . You will see

← MAIN MENU → Print Mode

10. Press **Enter**. You will see

PRINT MODE
nnnn of nnnn

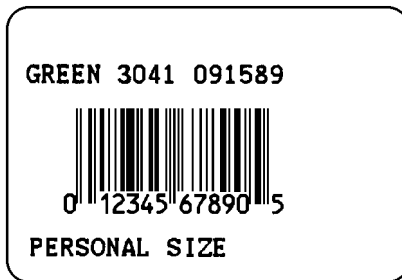
The first **nnnn** counts tags or labels as they print; the second **nnnn** tells you how many tags or labels are in the batch.

When all the batches have printed, you will see

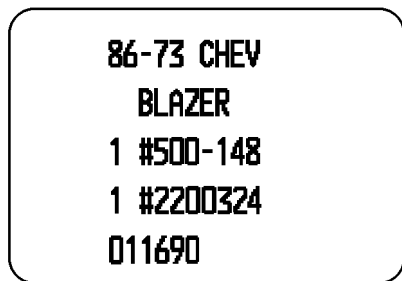
PRINT MODE
Ready

Using the Standard Formats

The 9403 printer comes with three standard formats. Here are examples of the standard formats with sample data. You can modify these formats by using different batch data.



FMT-1





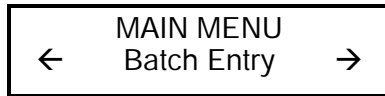
FMT-2






FMT-3

To use the standard formats:

1. From the Main Menu, press  or  until you see




2. Press . Press  or  until you see the format you want to use.

The standard formats are

Fmt - 1 96

Fmt - 2 97

Fmt - 3 98

3. Press . Follow the prompts to print the batch of labels.

Any other formats that you download remain in Batch Entry until you turn off the printer. The standard formats are saved when you turn off the printer; however, you must re-enter the batch data.

If you saved your formats, graphics, or check digits in flash memory, they are saved when the printer is turned off. For more information about flash memory, refer to the Packet Reference Manual.

CLEANING

9

This chapter covers cleaning the printhead and platen roller.

CAUTION

Do not use sharp objects to clean the printer. This may damage the printer and void your warranty.

Cleaning the Printhead and Platen Roller

The rate and frequency at which you print determines how often you must clean the printer.

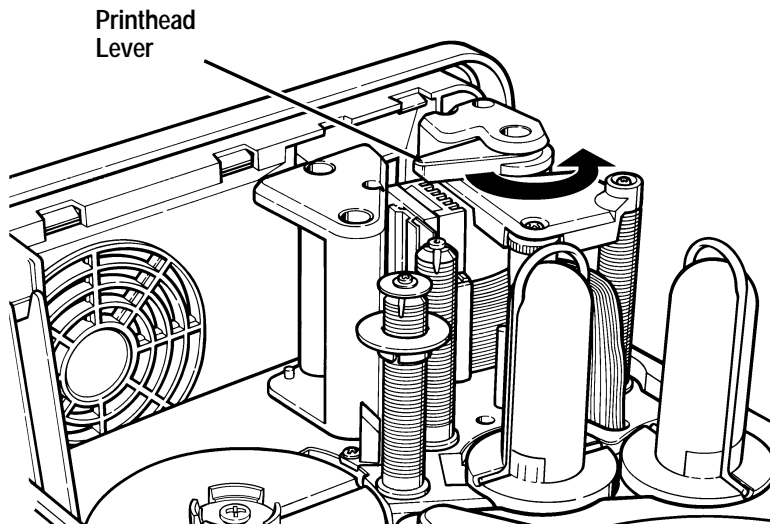
You may need to clean the printhead and platen roller:

- ◆ if there is any adhesive build-up in the supply path
- ◆ daily if your printer is in an excessively dirty, hot, or humid environment
- ◆ when you see voids in the print as shown:

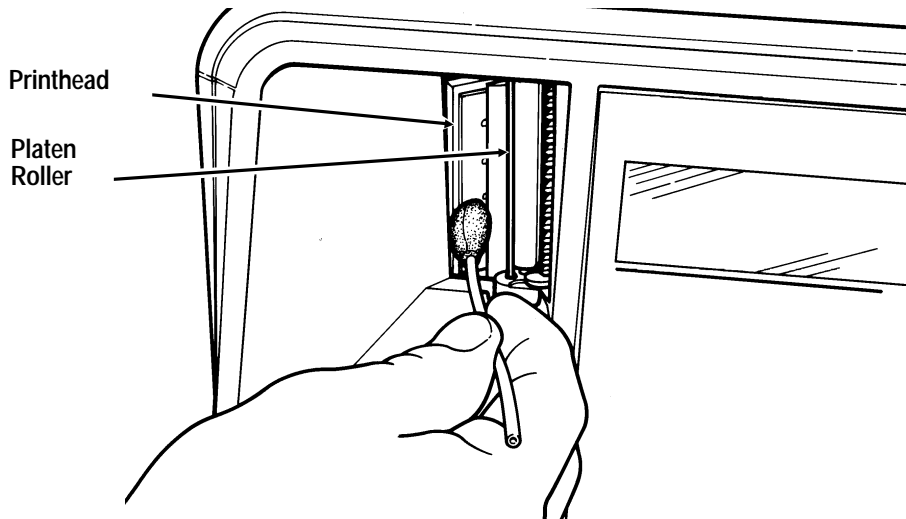


To clean the printer:

1. Turn off printer.
2. Unplug the power cord.
3. Remove the cover.
4. Turn the printhead lever counterclockwise to open the printhead.



5. Wind the supplies back onto the supply roll.
6. Remove the ribbon, if one is loaded. See Chapter 2, "Loading a Ribbon."
7. Moisten a cotton swab with isopropyl alcohol.
8. Rub the swab across the printhead and remove any build-up.



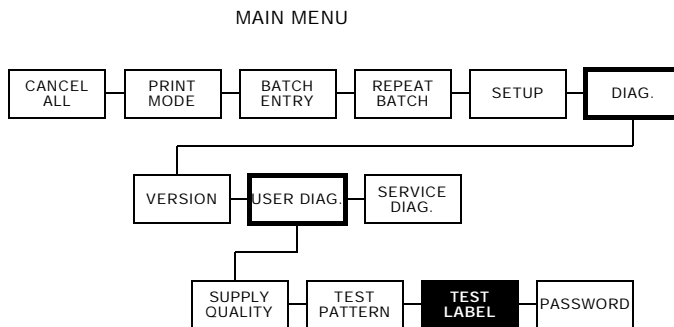
9. Clean the platen roller with a dry cloth or small brush. However, if there is adhesive gum build-up on the platen roller, moisten a cotton swab with isopropyl alcohol. Run the cotton swab or dry cloth across the platen roller. Make sure the platen roller is clean all the way around.
10. Re-load the supply roll and ribbon, if necessary.
11. Turn the printhead lever clockwise to close the printhead.
12. Turn on printer.

If printing has not improved, call Technical Support.

DIAGNOSTICS

10

This chapter explains how to perform simple diagnostic functions such as checking the software version and sensor mark quality, and printing a pattern or test label. This information will be needed if you have to contact Technical Support.



Factory Set Password

You need a password for access to diagnostic functions.

The permanent factory-set password is

Pause Pause Pause Enter

Checking the Software Version

1. From the Main Menu, press **>** until you see

MAIN MENU
Diagnostics

2. Press **Enter**. You will see

ENTER PASSWORD

Type your password. Press **Enter**.

3. From the Diagnostics Menu, press **<** or **>** until you see



DIAGNOSTICS
Version **>**

Press **Enter**. You will see


M9403 PN118628
V 1.0

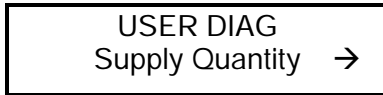
- ◆ Line one lists the printer model number (M9403) and the part number for the printer ROM.
- ◆ Line two is the version of software in the printer.

Printing a Test Pattern

1. From the Diagnostics Menu, press  or  until you see




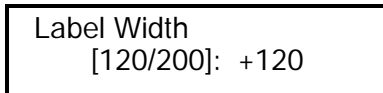
2. Press . You will see




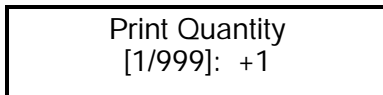
3. Press  until you see






4. Press . You will see

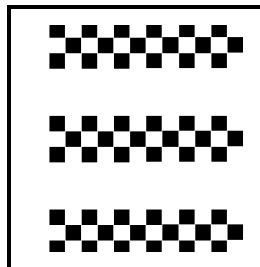


5. Press . You will see





6. Press  or  to select the quantity of test patterns you want to print. Press .

The test pattern will look like this:



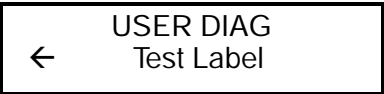
Printing a Test Label


See "Printing a Test Label" in Chapter 3 for more information. If you need to call Technical Support, print a test label.

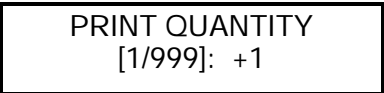
1. From the Diagnostic Menu, press  or  until you see






2. Press  and  or  until you see

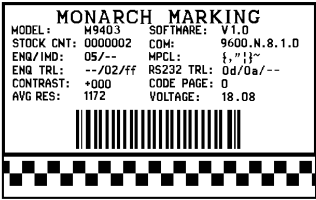


3. Press . You will see



4. Select the number of labels you want to print using  or . Press .

The test label should look like this:



The test label displays

- ◆ printer model number
- ◆ software version number
- ◆ number of inches printed to date
- ◆ user COM port settings
- ◆ a test pattern.



This information will help Technical Support diagnose the problem. Refer to the Packet Reference Manual for more information about the test label.

Checking Sensor Mark Quality

The printer continuously stores data from the most recent 16 supplies printed. This checks the quality of the sensor marks on the supply.

Print a batch of supplies or test labels.

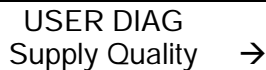
To check the sensor mark quality:

From the Diagnostics Menu, press  or  until you see




DIAGNOSTICS
User Diag

1. Press . Press  or  until you see



USER DIAG
Supply Quality →

2. Press . If you have not printed any labels, you will see a message saying "No data."

If you have printed labels since turning the printer on, you will see

Len	Min	Max	OK
0290	036	188	Y

The Len listing is the length of the supply in dots. The other information describes the sense mark reading on the supply.

Press **>** to see other readings. The printer stores readings on the last 16 tags or labels printed.

Using Password Protection

The password protection feature has been added to help prevent formats, graphics, fonts, or flash from accidentally being deleted from the printer's memory.

Enabling the Password (System Administrators only)

A System Administrator can enable the password that must be entered before formats, graphics or fonts can be deleted or flash can be cleared.

1. From the Diagnostics Menu, press **<** or **>** until you see

	DIAGNOSTICS	
←	User Diag	→

2. Press **Enter** and **<** or **>** until you see

	USER DIAG	
←	Password	→

3. Press **Enter**. You will see

Enable Password? No →

The default for password protection is "No," so you will always see "No" even if passwords are enabled.

4. If you do not want the user to enter a password before they can delete formats, graphics, fonts or clear flash, press **Enter**. You return to the User Diagnostics Menu.

OR

Press **>** to display "Yes" and press **Enter**. The password protection is enabled for formats, graphics, fonts, and flash. You return to the User Diagnostics Menu.

5. Press **Escape** twice to exit to the Main Menu.

Service Diagnostics


The Service Diagnostics menu can only be accessed by a Monarch Representative, because it requires a separate password. If you have any problems, print a test label and call Technical Support.

This chapter provides explanations of the error messages you may receive while using the 9403 printer. There are two types of error messages:

- ◆ Data Errors
- ◆ Communication Errors

Some errors numbered 400-438 and 500-574 are internal software errors.

If you have trouble loading supplies or performing maintenance, see Chapter 3, "Loading Supplies," or Chapter 9, "Cleaning." If you have a problem you cannot solve, contact Technical Support.

To clear an error, press . If the problem persists, clear the printer's memory by turning the printer off. Wait five seconds and turn the printer back on. If clearing the printer's memory does not solve the problem, call Technical Support.

Start Up and Printing

Problem	Action
Error message appears during startup.	Turn power off. Wait five seconds, then turn power on again. If an error message appears again, call Technical Support.
Continually feeds supply without printing.	Turn power off. Check supply path to be sure supply is through supply sensor and supply guides touch top edge of supply. Be sure supply roll is correctly loaded.
Printed data becomes misaligned.	Adjust the Print Position, Margin Position, or Supply Position as necessary.
Does not print.	Change supply.
	Change ribbon.
	Send a corrected format online.
Partially printed data.	Change ribbon.
	Send a corrected format online.
Prints shadows or smears.	Clean the printhead.
	Change supply.
	Reload ribbon.
Compressed or distorted printing.	Clean printhead and platen roller.
Light printing.	Change supply.
	Adjust the contrast.
	Reload ribbon.
Heavy printing.	Clean the printhead.
	Change supply.
	Adjust the contrast.
	Reload ribbon.

Problem	Action
Voids in printing.	Clean the printhead.
	Wrong supply type. Change supply.
	Ribbon loaded incorrectly. Reload ribbon.
	Call Technical Support for printer adjustment.
"Check ribbon" message appears.	Load a new ribbon.
	Reload ribbon.
"Out of Paper" message appears.	Replace the supply roll. Make sure supplies are loaded correctly.

Data Errors

Errors 001 to 499 are Data Errors. A Data Error indicates that incorrect data was received from the host, causing the printer to ignore the entire print job. These errors occur because data in the batch, format, or graphic packet is invalid. Refer to the Packet Reference Manual or your System Administrator for more information. Correct the format packet and send the print job again.

Error Code	Description/Action
------------	--------------------

001	Format ID number must be 1 to 999 .
002	Name must be 1 to 8 characters inside quotes.
003	Action must be A (add) or C (clear).
004	Supply length is invalid.
005	Supply width is invalid.
006	Storage device must be R (volatile RAM).
007	Unit of measure must be E (English), M (Metric), or G (Dots).
010	Field ID number is outside the range 0 to 999 .

- 011 Field length exceeds **2710**.
- 012 Row field position is greater than the maximum stock dimension.
- 013 Column field position is greater than the maximum stock dimension.
- 014 Font selector is invalid.
- 015 Character rotation must be **0** (0 degree), **1** (90 degree), **2** (180 degree), or **3** (270 degree).
- 016 Field rotation must be **0** (0 degree), **1** (90 degree), **2** (180 degree), or **3** (270 degree).
- 017 Field restriction must be **V** (variable) or **F** (fixed).
- 018 Code page selection defined in the field must be **0** (Internal), **1** (ANSI), **2** (DOS 437), or **3** (DOS 850).
- 020 Vertical magnification must be **1** to **7**.
- 021 Horizontal magnification must be **1** to **7**.
- 022 Color must be **B**, **D**, **O**, **R**, or **W**.
- 023 Intercharacter gap must be **0** to **99** dots.
- 024 Field justification must be **B** (balanced), **C** (centered), **E** (end), **L** (left), or **R** (right).
- 025 Data length is too long.
- 030 Bar code height must be at least **20** (English), **51** (Metric), **40** (Dots), or is not within the supply dimensions.
- 031 Human readable option must be **0**, **1**, **5**, **6**, **7**, or **8**.
- 032 Bar code type is invalid.
- 033 Bar code density is invalid.

- 040 Line thickness must be **0** to **99** dots.
- 041 Line direction must be **0**, **90**, **180**, or **270**.
- 042 The line segment or box end row is defined outside of printable area.
- 043 The line segment or box end column is defined outside of printable area.
- 044 Dot pattern for line or box must be "".
- 045 Line length is defined beyond the maximum length.
- 046 Line type must be **S** (segment) or **V** (vector).
- 051 Imaging mode in the graphic header must be **0**.
- 101 Format referenced by batch not in memory.
- 102 Print quantity is outside the range **0** to **32000**.
- 104 Batch mode must be **N** (new) or **U** (update).
- 105 Batch separator must be **0** (Off) or **1** (On) in the batch control field.
- 106 Print multiple is outside the range **1** to **999**.
- 107 Cut multiple is outside the range **0** to **999**.
- 108 Multiple part supply is outside the range **1** to **5**.
- 109 Reserved for knife usage.
- 200 Option number must be **1**, **4**, **30**, **31**, **42**, **50**, **60**, or **61**.
- 201 Copy length is outside the range **0** to **2710**.
- 202 Copy start position must be **1** to **2710**.
- 203 Destination start position must be **1** to **2710**.

- 204 Source field must be **0** to **999**.
- 205 Copy type must be **1** (Copy after rules) or **2** (Copy before rules).
- 206 Increment/Decrement selection must be **I** (increment) or **D** (decrement).
- 207 Incrementing start position must be **0** to **2710**.
- 208 Incrementing end position must be **0** to **2710**.
- 209 The incrementing amount must be **0** to **999**.
- 210 Security value for a PDF417 bar code must be **0** to **8**.
- 211 Narrow element value is less than **1** or greater than **99**.
- 212 Wide element value is less than **1** or greater than **99**.
- 213 Dimension must be **1** to **30** for a column or **3** to **90** for a row.
- 214 Truncation code must be **S** (standard) or **T** (truncated bar code).
- 215 Aspect code must be **C** (columns) or **R** (rows).
- 216 Option definition must be **S** (set) or **T** (template).
- 217 Input device must be **D** (Default), **H** (Host), **K** (Keyboard), **N** (None), or **S** (Scanner).
- 218 Pad direction must be **L** (from left) or **R** (from right).
- 219 Pad character is outside the range **0** to **255**.
- 220 Check digit selection must be **G** to generate check digit.
- 221 Primary or secondary price format is outside the range **1** to **15**.
- 222 Data type restriction is outside the range of **1** to **6**.

- 223 Option is not valid for the field.
- 224 Bar code Intercharacter gap must be **0** to **99** in printer dots.
- 251 Power up mode must be **0** (online) or **1** (offline).
- 252 Language selection must be **0** (English).
- 253 Batch separator code must be **0** (off) or **1** (on) in the system setup packet.
- 254 Slash zero selection must be **0** (standard zero) or **1** (slash zero).
- 255 Supply type must be **0** (black mark) or **1** (die cut).
- 256 Ribbon selection must be **0** (direct) or **1** (transfer).
- 257 Feed mode must be **0** (continuous) or **1** (on-demand).
- 258 Supply position is outside the range.
- 259 Contrast adjustment must be **-390** to **156** dots.
- 260 Print adjustment must be **-99** to **99** dots.
- 261 Margin adjustment must be **-99** to **99** dots.
- 262 Speed adjustment is invalid.
- 263 Primary monetary symbol is invalid.
- 264 Secondary symbol selection must be **0** (none) or **1** (print secondary sign).
- 265 Monetary decimal places must be **0** to **3**.
- 266 Character string length in Packet **E** must be **5** (MPCL control characters) or **7** (ENQ/IMD command character).
- 267 Baud rate selection must be **0** (1200), **1** (2400), **2** (4800), **3** (9600), **4** (19.2), or **5** (38.4).

- 268 Word length selection must be **0** (7 bits) or **1** (8 bits).
- 269 Stop bits selection must be **0** (1 bit) or **1** (2 bits).
- 270 Parity selection must be **0** (none), **1** (odd), or **2** (even).
- 271 Flow control selection must be **0** (none), **1** (DTR/DSR), **2** (CTS/RTS), or **3** (XON/XOFF).
- 272 Internal code page selection must be **0** (Internal), **1** (ANSI), **2** (DOS 437), or **3** (DOS 850).
- 273 Cut adjustment must be **-300** to **300** dots.
- 282 RS232 Trailer string is too long. Use a maximum of **3** characters.
- 283 ENQ Trailer string is too long. Use a maximum of **3** characters.
- 284 The buffer type must be **T** (transmit), **R** (receive), **I** (image), **F** (format, batch data, and graphics), **D** (downloadable fonts), or **V** (vector/scalable fonts).
- 285 The storage device type must be **N** (non-volatile RAM) or **R** (volatile RAM).
- 286 The buffer size is invalid.
- 287 The printhead width is invalid.
- 290 Action must be **0** (disable) or **1** (enable) for Backfeed Control.
- 291 Dispense position must be **50** to **200** dots and/or the backfeed distance is greater than the dispense position.
- 292 Backfeed distance must be **10** to **200** dots.
- 310 Check digit scheme number must be **1** to **10**.
- 311 Modulus must be **2** to **11**.

- 314 Check digit algorithm must be **D** (sum of digits) or **P** (sum of products).
- 325 Duplicating direction must be **0** or **1**.
- 327 Amount of row adjustment must be **0** to **999**.
- 328 Duplicate count must be **0** to **999**.
- 340 Bitmap line encoding must be **H** (Hex) or **R** (Run length).
- 350 Font selector must be **1** to **9999**.
- 351 Font data length must be **68** to **16384**.
- 352 Insufficient font memory is available for the downloaded font.
- 380 Job request is outside the range **0** to **4**.
- 400 Invalid character following {.
- 401 Internal software failure. Call Technical Support.
- 402 Field separator is not in the expected location.
- 403 Field separator was not found.
- 404 The number or string that is currently being processed is too long.
- 405 Too many fields exist in the format.

Communication Failures

Errors 410 to 413 are usually caused by a hardware failure, by an incorrect SETUP option or by the host ignoring flow control (XON/OFF, CTS/RTS or DTR). These errors occur when the printer cannot communicate with the host. Refer to the Packet Reference Manual or your System Administrator for more information.

The valid options for printer Port Settings are shown below. The default values are shown in bold.

Baud rate	1200, 2400, 4800, 9600 , 19200
Word length	7 or 8
Stop bits	1 or 2
Parity	Odd, Even, None
Flow control	None, Xon/Xoff, DTR , CTS
Reset	Yes or No

Error	Description/Action
409	Printer memory is full.
410	Parity mismatch.
411	Framing error (baud rate mismatch).
412	Flow control mismatch.
413	Receive buffer is full. Check flow control settings.
414	Internal keyboard buffer is full or you need a new keypad.
427	Format name must be 1 to 8 characters inside quotes or a printer-assigned name ("").
428	Batch name is invalid or graphic not found.
429	A field number appears more than once in a format.
430	The format uses a graphic file that cannot be found.
433	The batch references a field number that does not exist in the format.
497	Error occurred during the parallel port loop back test.
499	Error occurred during the serial port loop back test.

Data Formatting Errors

Errors 571 to 618 are data formatting errors. This type of error happens when a field prints incorrectly. Your System Administrator can correct the format, batch, or graphic packet and send the print job again. For errors 571 to 614, the printer will still print, but the data may be incomplete, missing, or contain incorrect data.

Error	Description/Action
571	UPC or EAN bar code data length in the batch doesn't fit the format.
572	Batch data doesn't fit the format, the field contains blanks, or data mismatch.
573	Batch data in price field doesn't fit the format or the field contains blanks.
574	Batch data in check digit scheme doesn't fit the format, or, the field contains blanks.
575	The graphic included in your format could not be found.
600	Imaging error because the batch was refused.
601	An error occurred while the batch was imaging.
602	The batch was not found during imaging.
611	Font, bar code, or density in the batch doesn't fit the format.
612	Batch data is missing or doesn't match the format.
613	Reference point off tag.
614	Portion of field off tag.
615	Bar code width is greater than 16 inches, or keywords on PDF 417 bar code exceed 928 .

- 616 A bad dot falls on a bar code and the dot cannot be shifted. Call Customer Service to order a new printhead or printhead kit.
- 618 Magnification must be 1 to 7.

Machine Faults

Errors 700 to 765 happen when there is a problem with the printer. For errors 700-704, press **Enter** and try to continue printing. If the error reappears, call Technical Support.

Error	Description/Action
700	An error is pending, and the printer cannot continue with the batch.
701	Printer received a command that it cannot execute while it is running.
702	Check your printer's SETUP settings.
703	The printer sensed a calibration of different-sized black marks.
704	Printer didn't detect a sense mark within the maximum feed length or is out of supplies. Check or load supplies.
705	Invalid batch received.
750	Printhead is overheated, turn off the printer to let it cool.
751	Printer didn't detect a sense mark when expected.
752	Printer detected a sense mark in the wrong place.
753	Printer detected a sense mark that is too long.

- 754 Out of ribbon or ribbon jam. Check or load ribbon. Remove any slack in the ribbon by turning the take-up reel clockwise.
- 755 Printhead is open. Close the printhead.
- 756 Out of supplies. Load supplies.
- 757 Reload supplies (supply length mismatch).
- 758 The supply was not seen or the on-demand sensor is not working correctly. Check for a supply jam, clear the supply path, or reload supplies. This error may occur if you remove a label too quickly in the on-demand mode. The printer does not recalibrate after this error.
- 759 Knife is not moving. Call Technical Support.
- 760 Knife jam. Remove any jammed tags from the knife. Call Technical Support.
- 761 Stacker is full or jammed. Empty the stacker or clear the jam before continuing. The printer does not recalibrate after this error.
- 762 Low battery. Recharge the battery.
- 763 Waiting to dispense label. Press **Feed**.
- 764 Verifier failure. Press **Clear** to clear the error and continue printing. A blank label feeds and the last label reprints.
- 765 The printhead has less than four bad dots. The printer can shift bar code fields to avoid bad dots. Press **Clear** to continue printing. Print a test label to confirm the number of bad dots.
- 768 Printhead has more than 10 bad dots or is not connected. Make sure the printhead is connected. If necessary, call Customer Service to order a new printhead or printhead kit.

- 770 The print motor is not ready. Call Technical Support.
- 771 The format specified by the application was not found. Reload your application and format and try again.
- 790 The printer is busy. Wait until the printer is idle (not receiving data or no batch waiting to print) before you send any packets. This error may occur when you try to print a test label if the printer is busy.
- 791 The printer has an error pending. Turn off the printer. Wait 15 seconds and turn it back on. Resend the packets.
- 792 The printer is not initialized. Call Technical Support.
- 793 The printer job queue is full. Turn off the printer. Wait 15 seconds and turn it back on. Resend the packets.

Hard Printer Failures

When a HARD failure occurs, the printer will display **WARNING** or **POWER DOWN** on the top line of the keypad display.

Record the displayed message and turn off the printer. If the problem reoccurs when you turn the printer on again, call Technical Support. If the problem does not reoccur after you turn your printer on again, see Chapter 5, "Communication Values," to reset your printer's SETUP options. Resend your packets.

Printer Display	Description/Action
WARNING RAM Test Failure	RAM check failed on power up.
POWER DOWN ROM Sum Failure	ROM checksum test failed.
POWER DOWN Timer Failure	Timer test failed.

Printer Display	Description/Action
POWER DOWN Intr Test Failure	Interrupt test failed.
POWER DOWN Low System RAM	Not enough RAM for system. All formats, batches, graphics, and SETUP data are lost.
POWER DOWN Illegal Intr#	Illegal interrupt occurred.
POWER DOWN NMI Received	Non-maskable interrupt occurred.
POWER DOWN Low Appl RAM	Not enough RAM for application. All formats, batches, graphics, and SETUP data are lost.
POWER DOWN NVRAM Sum Fail	RAM checksum test failed.
POWER DOWN RAM Corrupt	Item storage RAM failed. All formats, batches, graphics, and SETUP data are lost. If the problem does not reoccur after you turn your printer on again, see Chapter 5, "Communication Values," to reset your printer's SETUP options. Resend your packets.

SPECIFICATIONS



Printer

Length:	16.5 inches (419 mm)
Width:	10 inches (254 mm)
Height:	9 inches (229 mm)
Weight:	15.5 lb. (7.05 kg)
Shipping Weight:	22 lb. (10 kg)
Power:	Domestic: 115 VAC, 80W, .7A, 60 Hz. International: 230 VAC, 80W, .35A, 50 Hz.
Display:	Liquid crystal display with 2 lines 16 characters per line
Printhead:	Thermal at 2.2 inches wide (56 mm / 448 dots) 203 dots/inch (8.0 dots/mm)
Printing method:	Thermal transfer (ribbon) or Thermal direct
Ribbon type:	Standard

Operating Limits:	For Thermal Transfer: 40°F to 95°F (4°C to 35°C) For Thermal Direct: 40°F to 110°F (4°C to 43°C)
Ribbon widths:	1.26 inches (32.0 mm) 1.57 inches (39.88 mm) 2.10 inches (53.34 mm)
Ribbon length:	308.4 feet (94 meters)
Ribbon storage:	41°F to 95°F (5°C to 35°C). DO NOT leave ribbons in direct sunlight, high temperatures, or high humidity.
Print speed:	2 inches (51.0 mm) per second
Max. print image:	2 inches (51.0 mm) by 6 inches (152 mm)

Supplies

Supply types:	Thermal transfer or thermal direct (tags or labels)	
Width:	Maximum	2.0 inches (51 mm)
	Minimum	0.75 inches (19.05 mm)
Length:	Maximum	6 inches (152 mm)
	Minimum	0.75 inches (19.05 mm)
Supply thickness:	Maximum	12 mil
	Minimum	6 mil
Roll diameter:	Inside diameter: 3 inches (76.2 mm)	
	Outside diameter: 6.75 inches (171.45 mm)	

CHARACTER SETS



Character Sets

The following lists show the characters available in the fonts for the 9403 printer.

Standard Font

ABCDEFGHIJKLM
 NOPQRSTUVWXYZ
 abcdefghijklm
 nopqrstuvwxyz
 0123456789:;<=>?
 !"#%&'()*+,-./
 [\]^_`{|}~Cüéääåä
 çèéëìíîïÿÄÅÆæØøÙ
 ÛÜÖÜÇçFfAaIouñN=°;
 ~-¼½;«»Øøαβ@TM—
 \$£¥¤FPLKkMmRrEeWwBb¥

Reduced Font

ABCDEFGHIJKLM
 NOPQRSTUVWXYZ
 abcdefghijklm
 nopqrstuvwxyz
 0123456789:;<=>?
 !"#%&'()*+,-./
 [\]^_`{|}~Cüéääåä
 çèéëìíîïÿÄÅÆæØøÙ
 ÛÜÖÜÇçFfAaIouñN=°;
 ~-¼½;«»Øøαβ@TM—
 \$£¥¤FPLKkMmRrEeWwBb¥

These samples were printed using the Internal Symbol Set.

Bold Font

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
0123456789@½
!"#\$%&'()*+,-
[\\]^_./:;<=>?
\$£¥¤¦§¨ª«¬®¯°±²³´µ¶·¸¹º»¼½¾¿

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
0123456789@½
!"#\$%&'()*+,-
[\\]^_./:;<=>?
\$£¥¤¦§¨ª«¬®¯°±²³´µ¶·¸¹º»¼½¾¿

CG Triumvirate Font

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789:;<=>?
!"#\$%&'()*+,-./
[\\]^_`{|}~Çüéääåä
çèéëìíîïÿÆœæÆôöù
ÿÖÜçPtfáíóúñÑº¿
¬ ¼ ½ ¾ ¡ ¢ £ ¤ ¥ ¨ ª « ¬ ® ¯ ° ± ² ³ ´ µ ¶ · ¸ ¹ º » ¼ ½ ¾ ¿

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
0123456789:;<=>?
!"#\$%&'()*+,-./
[\\]^_`{|}~Çüéääåä
çèéëìíîïÿÆœæÆôöù
ÿÖÜçPtfáíóúñÑº¿
¬ ¼ ½ ¾ ¡ ¢ £ ¤ ¥ ¨ ª « ¬ ® ¯ ° ± ² ³ ´ µ ¶ · ¸ ¹ º » ¼ ½ ¾ ¿

OCRA-like Font

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
0123456789
!"#\$%&'()*+,-./:;<=>?
\$£¥¤¦§¨ª«¬®¯°±²³´µ¶·¸¹º»¼½¾¿

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
0123456789
!"#\$%&'()*+,-./:;<=>?
\$£¥¤¦§¨ª«¬®¯°±²³´µ¶·¸¹º»¼½¾¿

CG Triumvirate Bold Font

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
nopqrstuvwxyz
0123456789:;<=>?
!"#\$%&'()*+,-./
[\\]^_`{|}~Çüéääåä
çèéëìíîïÿÆœæÆôöù
ÿÖÜçPtfáíóúñÑº¿
¬ ¼ ½ ¾ ¡ ¢ £ ¤ ¥ ¨ ª « ¬ ® ¯ ° ± ² ³ ´ µ ¶ · ¸ ¹ º » ¼ ½ ¾ ¿

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
nopqrstuvwxyz
0123456789:;<=>?
!"#\$%&'()*+,-./
[\\]^_`{|}~Çüéääåä
çèéëìíîïÿÆœæÆôöù
ÿÖÜçPtfáíóúñÑº¿
¬ ¼ ½ ¾ ¡ ¢ £ ¤ ¥ ¨ ª « ¬ ® ¯ ° ± ² ³ ´ µ ¶ · ¸ ¹ º » ¼ ½ ¾ ¿

Uppercase Letters

Use Character Mode to enter the offline code.


Char.	Online Code	Offline Code	Char.	Online Code	Offline Code
A	A	7	N	N	55
B	B	77	O	O	555
C	C	777	P	P	6
D	D	8	Q	Q	66
E	E	88	R	R	666
F	F	888	S	S	1
G	G	9	T	T	11
H	H	99	U	U	111
I	I	999	V	V	2
J	J	4	W	W	22
K	K	44	X	X	222
L	L	444	Y	Y	3
M	M	5	Z	Z	33

















Lowercase Letters

These letters are available only in Standard and Reduced fonts.

Char.	Online Code	Offline Code	Char.	Online Code	Offline Code
a	a	7777	n	n	55555
b	b	77777	o	o	555555
c	c	777777	p	p	6666
d	d	8888	q	q	66666
e	e	88888	r	r	666666
f	f	888888	s	s	1111
g	g	9999	t	t	11111
h	h	99999	u	u	111111
i	i	999999	v	v	2222
j	j	4444	w	w	22222
k	k	44444	x	x	222222
l	l	444444	y	y	333
m	m	5555	z	z	3333

Currency Symbols

You can enter international currency symbols offline by setting the default monetary sign to the desired country setting and pressing the \$ key. The \$ enters the monetary sign that is currently active. /\$ enters the secondary sign (for example, ¢ in U.S. currency). To change the monetary sign, see Chapter 7, "Setting Defaults."

Char.	Online Code	Offline Code	Char.	Online Code	Offline Code
\$	\$	\$	Kr	~184	 184
£	~178	 178	₹	~185	 185
¥	~179	 179	₱	~186	 186
₪	~180	 180	Rs	~187	 187
F	~181	 181	₺	~188	P188
P	~182	 182	₩	~189	 189
¢	~155	 \$	₮	~190	 190
₯	~156	 156	₴	~191	 191
L.	~183	 183	€	~192	 192

Punctuation and Symbols

Char.	Online Code	Offline Code	Char.	Online Code	Offline Code
.	.	.	,	,	,
{ ¹	{	Shift . .	} ¹	}	Shift , ,
[²	[Shift] ²]	Shift , , , ,
<	<	Shift	>	>	Shift , , , , ,
((Shift))	Shift , , , , , ,
,	,	Shift	"	"	Shift , , , , , , ,
;	;	Shift	:	:	Shift , , , , , , , ,
#	#	#	(spc)	(spc)	Shift 0
?	?	Shift #	/	/	Shift 00
@	@	Shift ##	*	*	Shift 000
&	&	Shift ###	+	+	Shift 0000
!	!	Shift ####	-	-	Shift 00000
—	—	Shift #####	%	%	Shift 000000
¹		Shift #####	\ ²	\	Shift 0000000
, ¹	,	Shift #####	"	~034	Pause 034
^		Shift #####	~	~198	Pause 198
=	=	(None)	_ ²	~199	Pause 199
¢		Shift \$			

¹Not available in the OCRA-like and Bold fonts. ²Not available in the OCRA-like font.

International Characters

These characters are available only in Standard and Reduced fonts.

Char.	Online Code	Offline Code	Char.	Online Code	Offline Code
Ç	~128	<input type="button" value="Pause"/> 128	Ö	~153	<input type="button" value="Pause"/> 153
ü	~129	<input type="button" value="Pause"/> 129	Ü	~154	<input type="button" value="Pause"/> 154
é	~130	<input type="button" value="Pause"/> 130	¢	~155	<input type="button" value="Pause"/> 155*
â	~131	<input type="button" value="Pause"/> 131	£	~156	<input type="button" value="Pause"/> 156*
ä	~132	<input type="button" value="Pause"/> 132	¥	~157	<input type="button" value="Pause"/> 157*
à	~133	<input type="button" value="Pause"/> 133	₤	~158	<input type="button" value="Pause"/> 158*
å	~134	<input type="button" value="Pause"/> 134	—	~159	<input type="button" value="Pause"/> 159
ç	~135	<input type="button" value="Pause"/> 135	á	~160	<input type="button" value="Pause"/> 160
ê	~136	<input type="button" value="Pause"/> 136	í	~161	<input type="button" value="Pause"/> 161
ë	~137	<input type="button" value="Pause"/> 137	ó	~162	<input type="button" value="Pause"/> 162
è	~138	<input type="button" value="Pause"/> 138	ú	~163	<input type="button" value="Pause"/> 163
ï	~139	<input type="button" value="Pause"/> 139	ñ	~164	<input type="button" value="Pause"/> 164
î	~140	<input type="button" value="Pause"/> 140	N	~165	<input type="button" value="Pause"/> 165
ì	~141	<input type="button" value="Pause"/> 141	ª	~166	<input type="button" value="Pause"/> 166
Ä	~142	<input type="button" value="Pause"/> 142	º	~167	<input type="button" value="Pause"/> 167
Å	~143	<input type="button" value="Pause"/> 143	¿	~168	<input type="button" value="Pause"/> 168
É	~144	<input type="button" value="Pause"/> 144	¬	~169	<input type="button" value="Pause"/> 169
æ	~145	<input type="button" value="Pause"/> 145	¬	~170	<input type="button" value="Pause"/> 170
Æ	~146	<input type="button" value="Pause"/> 146	¡	~173	<input type="button" value="Pause"/> 173
ô	~147	<input type="button" value="Pause"/> 147	«	~174	P174
ö	~148	<input type="button" value="Pause"/> 148	»	~175	<input type="button" value="Pause"/> 175
ò	~149	<input type="button" value="Pause"/> 149	~	~198	<input type="button" value="Pause"/> 198

*Available in Bold and OCRA-like fonts using Currency codes.

Char.	Online Code	Offline Code	Char.	Online Code	Offline Code
û	~150	<div>Pause</div> 150	—	~199	<div>Pause</div> 199
ù	~151	<div>Pause</div> 151	Ø	~210	<div>Pause</div> 210
ÿ	~152	<div>Pause</div> 152	ø	~214	<div>Pause</div> 214
1/2	~171	<div>Pause</div> 171	α	~224	<div>Pause</div> 224
1/4	~172	<div>Pause</div> 172	β	~225	<div>Pause</div> 225

Code 128 Function Codes

Code	Function Code
~201	F1
~202	F2
~203	F3
~204	F4

GLOSSARY

batch	Group of tags or labels that contain the same data.
batch separator	Extra tag between batches that shows where one batch ends and the next one begins.
character	Letter, number, or symbol.
continuous	Feed mode in which the printer prints all the tags in a batch without stopping.
cursor	Underline symbol that shows where you are on the screen.
data entry keypad	21-key keypad that includes letters and numbers.
digits	Numbers only.
drawing	Term that appears on the printer to indicate bar code printing.
enter	Type in data from the keypad.
field	Area on the supply where data prints.
format	Arrangement of fields printed on the supply.
imaging	Term that appears on the printer to indicate text printing.
offline	Entering data and printing batches by using the printer alone (without a computer).
online	Entering data and printing batches by sending data from a computer.
printing	Term that appears on the printer to indicate graphics printing.

queue

Batches waiting to print (also includes the batch that is printing).

supplies

Tags or labels used for printing.

For supplies, service, or assistance call toll free:

1-800-543-6650 (In the U.S.A.)

1-800-263-4650 (In Canada)

www.monarch.com